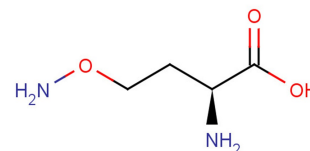


## L-Canaline

## Chemical Properties

CAS No.:	496-93-5
Formula:	C <sub>4</sub> H <sub>10</sub> N <sub>2</sub> O <sub>3</sub>
Molecular Weight:	134.13
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).



## Biological Description

Description	L-Canaline inhibits the growth of the malaria parasite <i>Plasmodium falciparum</i> with an IC <sub>50</sub> of 297 nM. L-Canaline has anticancer and antiproliferative effects. L-Canaline is a nonprotein amino acid stored in many leguminous plants. L-Canaline is a cytotoxic metabolite catalyzed by L-canavanine and its arginase. L-Canaline is a potent and irreversible inhibitor of ornithine aminotransferase.
Targets(IC <sub>50</sub> )	<i>Plasmodium falciparum</i> : 297 nM
In vitro	L-Canaline is slightly less toxic to PBMCs stimulated via the mixed lymphocyte reaction (IC <sub>50</sub> of 0.54 mM). L-canaline inhibits L-lysine flux competitively (K <sub>i</sub> of 4.6 mM) in astrocytes and astrocytoma cells. L-Canaline treatment inhibits the proliferation of PBMCs after stimulation by phorbol 12-myristate-13-acetate (PMA) or via the mixed lymphocyte reaction. The greatest effect is seen with PMA-stimulated cells, where L-canaline has an IC <sub>50</sub> of 0.26 mM.
In vivo	Intraseptal injection of 100 µg of L-canaline into male Sprague-Dawley rats causes a 90% decrease in the ornithine aminotransferase activity of the septum tissues evaluated from animals killed 1 h later. L-Canaline decreases the aspartic acid content of tissues of the medulla oblongata of male Wistar rats, but it does not affect the evoked release of this nonprotein amino acid into these tissues.

## Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	7.455 mL	37.277 mL	74.555 mL
5 mM	1.491 mL	7.455 mL	14.911 mL
10 mM	0.746 mL	3.728 mL	7.455 mL
50 mM	0.149 mL	0.746 mL	1.491 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Bence AK, et al. The antiproliferative and immunotoxic effects of L-canavanine and L-canaline. *Anticancer Drugs*. 2002 Mar;13(3):313-20.
2. Rosenthal GA. L-canaline: a potent antimetabolite and anti-cancer agent from leguminous plants. *Life Sci*. 1997;60(19):1635-41.
3. Berger BJ. Antimalarial activities of aminoxy compounds. *Antimicrob Agents Chemother*. 2000 Sep;44(9):2540-2.

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